Honeywell

General Aviation FIS Broadcast System

Honeywell International (NavRadio Corp.)
AWIN SYSTEM Project Overview

May 23, 2000

G-A AWIN SYSTEM PROJECT OVERVIEW

- Reduction of weather-related accidents through improved information access in flight
- General Aviation oriented system:
  - Low Cost
  - Lightweight
  - Compact
- VDL Mode 2 Datalink
- Broadcast Weather/FIS Data System
- Open architecture, industry standards based

G-A AWIN SYSTEM PROJECT OVERVIEW

- Flight Information Services - Broadcast content:
  - Alphanumeric Weather Data
  - Graphical Weather Data
  - Other advisory information
- VDL Mode 2 provides 31.5 Kbps link to GA aircraft
- Broadcast provides lowest GA cost, high bandwidth use efficiency
- Intuitive, graphical interface is key to effective information retrieval and interpretation

G-A AWIN SYSTEM PROJECT OVERVIEW

"DEVELOP and VALIDATE a PRACTICAL, COMMERCIALLY VIABLE FIS-B SYSTEM for DEPLOYMENT in the NEAR TERM"

FAA FISDL Program Evolved During AWIN Phase I;

Honeywell AWIN Results Flow Directly Into Commercial FISDL Role

MAJOR ACCOMPLISHMENTS TO DATE

- Operational weather data source and delivery system
- G-A compatible VDL Mode 2 Receiver
- Compact, flexible broadcast Ground Station
- Equipment production
- End-to-end tests and flight validations

MAJOR ACCOMPLISHMENTS TO DATE

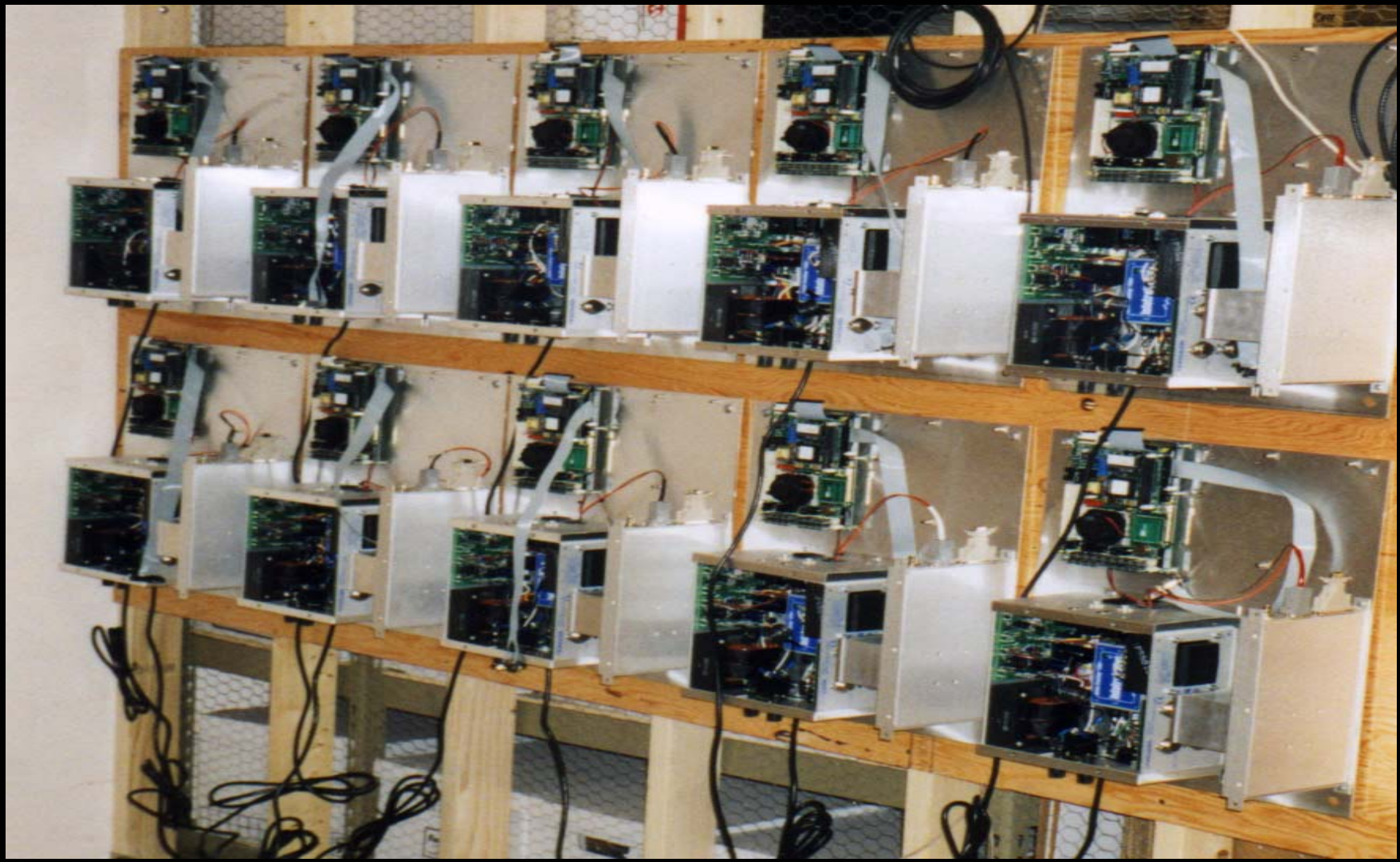
- Development of prototype display methodologies
- Human Factors evaluation of displays and user interface
- Development of second-generation display methodology for Bendix/King display products
- Advancement of open industry standards for FIS-B in conjunction with RTCA, AGATE

MAJOR ACCOMPLISHMENTS TO DATE

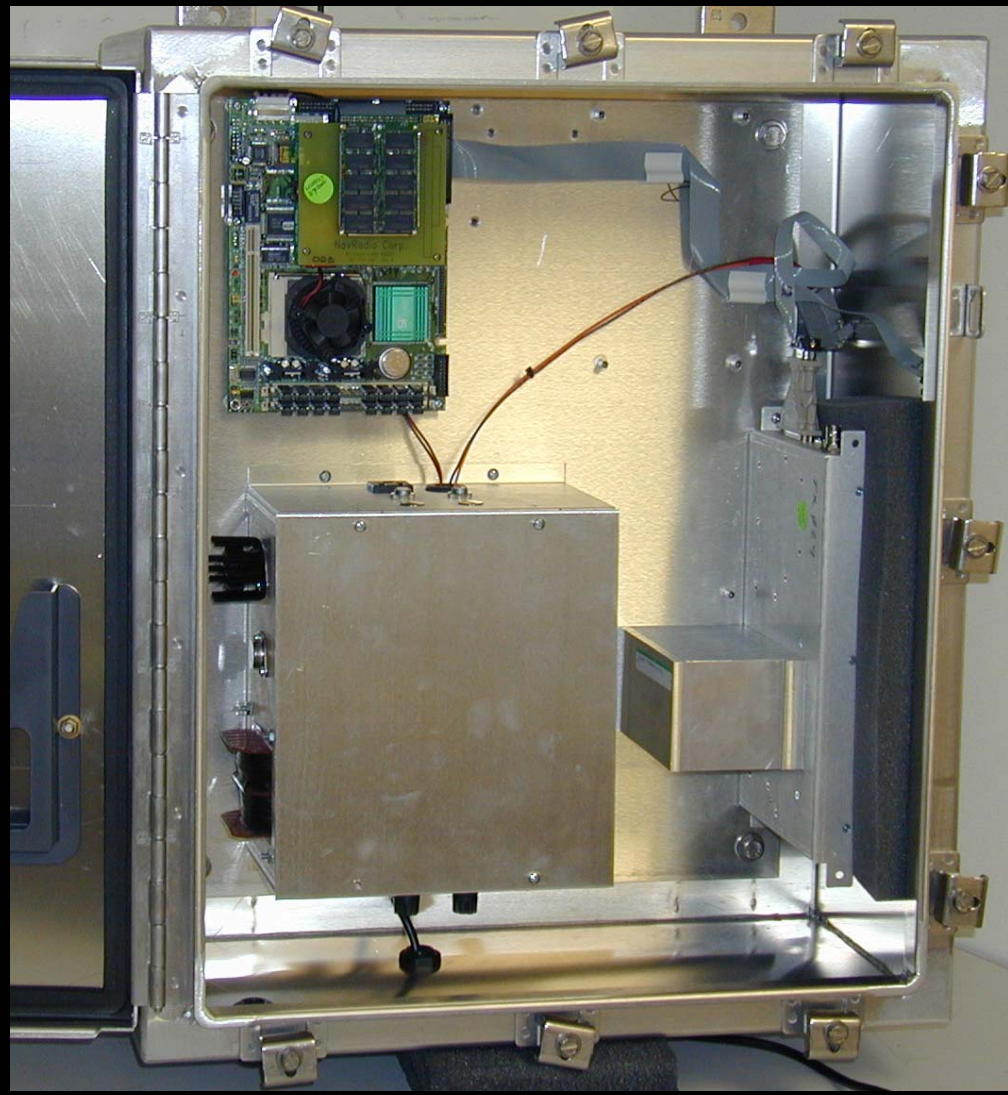
- Frequency allocation and licensing
- Broadcast station deployment
- Support of RTI simulation research
- Support of NASA CoWS research

AWIN VDL MODE 2 RECEIVER

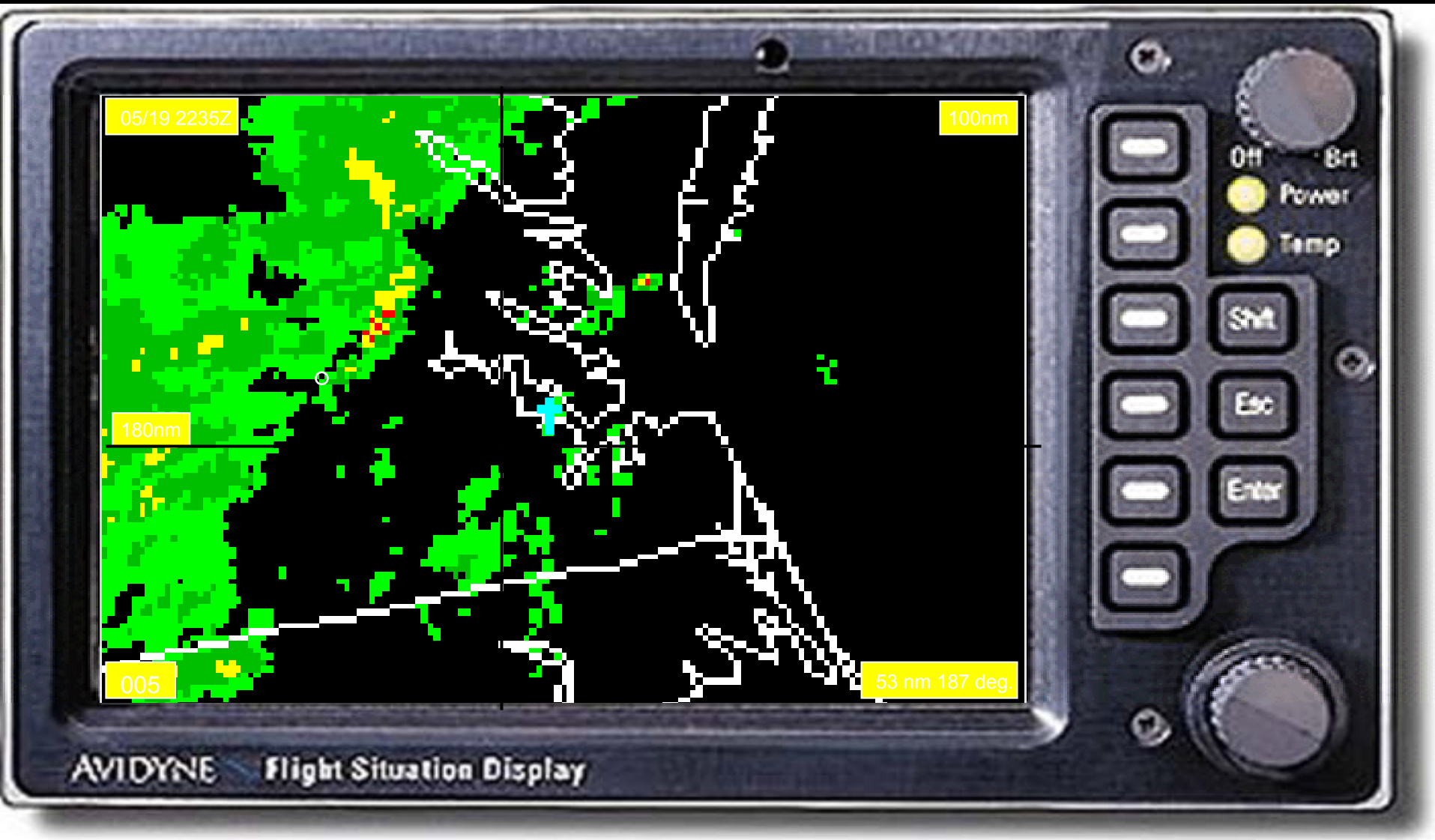
AWIN GROUND STATION PRODUCTION



AWIN Ground Station Indoor/Outdoor Package



PROTOTYPE AWIN (AVIDYNE) DISPLAY

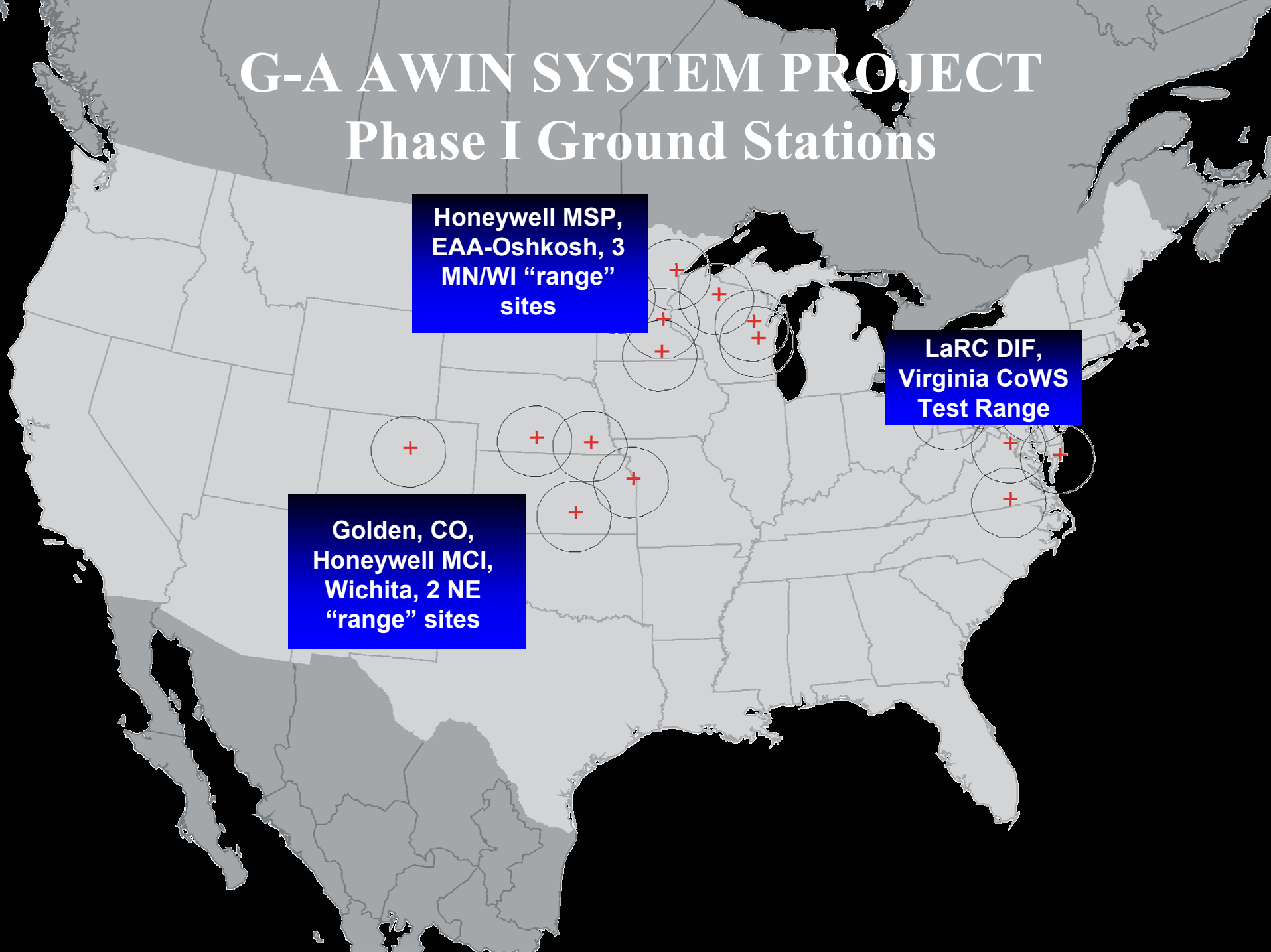


MAJOR ACCOMPLISHMENTS

- FIS-B display methodology for Avidyne/Avrotec and Bendix-King/Skyforce display systems
- Human factors evaluation of Avidyne display methodology
- Operational datalink weather display application for Avidyne/Avrotec and Skyforce displays
- Aircraft installation/operation of AWIN FIS display

Bendix/King SkyMap IIIC AWIN/CoWS Display

G-A AWIN SYSTEM PROJECT
Phase I Ground Stations



Bendix/King KMD550 with AWIN DISPLAY

KMD550 - First Public AWIN Demonstration

KMD550/KDR510 - First Public Demonstration

AWIN Ground Station in Operation - Lakeland, FL

G-A AWIN SYSTEM: NEXT STEPS

- Phase I completion: May, 2000
- Phase II begins shortly after Phase I ends
- Honeywell Commercial FISDL deployment concurrent with early Phase II activity
- NASA RTI and CoWS Research efforts bridge between Phase I and Phase II activity

G-A AWIN SYSTEM: NEXT STEPS

- Commercial FISDL becoming a reality
- Unified Honeywell organization includes both G-A and Air Transport AWIN and commercial initiatives
- Honeywell A-T AWIN Projects now in Phase II; G-A AWIN System Phase II begin soon
- Next Steps build on all these elements to help lead next generation weather accident prevention innovation

Honeywell G-A AWIN SYSTEM PHASE II

- Build on Phase I groundwork
- Build on commercial FISDL program momentum
- Leverage emerging Honeywell commercial FISDL infrastructure as testbed for AWIN research
- Link various Honeywell FIS efforts to minimize overlap, maximize development across all market sectors

Honeywell G-A AWIN SYSTEM PHASE II

- Development and validation of next-generation weather INFORMATION products
- Evolution of broader-based situational analysis/advisory information displays with weather as an element
- Expansion of FIS access and display options to reach larger percentage of G-A users

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